RHEUMATIC FEVER

Summary of a Rheumatic Fever Workshop on Various Aspects of the Disease

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■ *While rheumatic fever is becoming an uncommon disease in all parts of the United States, it still exists in all areas including Southern California. The disease is sufficiently common in Los Angeles County to warrant organized programs of control aimed particularly at careful follow-up, accurate case reporting, secondary prophylaxis and primary prevention.*

In April of 1965 a Rheumatic Fever Workshop, in which local, national and state experts in rheumatic fever participated, reviewed the status of the rheumatic fever programs in Los Angeles County. Guidelines for future organization for the control of rheumatic fever were developed and presented.

IN APRIL 1965, 15 Los Angeles physicians with a wide range of experience and organizational affiliation relating to rheumatic fever and rheumatic heart disease met at the Hollyhock House in Los Angeles. Invited state and national participants were present (see Appendix). The purpose of this meeting was to review existing programs for rheumatic fever control and to recommend guidelines for community efforts in controlling this disease.

The purpose of this communication is to report the consensus of these discussions.

Previously, local committees have usually centered their discussions around the difficult question of the prevalence of rheumatic fever in Southern California. There have been no available prevalence data other than through the collection of opinions. It has usually been concluded that there is insufficient rheumatic fever to constitute a significant problem. Nonetheless, the thought has persisted that without adequate local prevalence data one could not be certain. Locally pediatricians see active rheumatic fever, internists see rheumatic heart disease and thoracic surgeons are correcting rheumatic valvular deformities. The widely held concept that these patients do not acquire their primary attack of rheumatic fever in Southern California is satisfying in a Chamber of Commerce sense, but does not reduce our community's responsibility or expense on account of these patients. In addition, the upsurge of national interest in primary prevention of rheumatic fever requires serious reconsideration of local community programs. If primary prevention of rheumatic fever can be demonstrated to be more than a theo-

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retical possibility, community programs to afford our citizens this benefit will be needed. These considerations led to the formation of the Rheumatic Fever Workshop.

Present Programs

The existing programs for rheumatic fever in Los Angeles are fragmentary and overlapping. The Los Angeles County Health Department administers five children's cardiac diagnostic clinics primarily for the detection of heart disease and also tabulates reports of cases of active rheumatic fever. The Los Angeles County Heart Association has a limited secondary prophylaxis program. Many school systems supply home teachers for children with rheumatic fever, perform routine school physical examinations and refer diagnostic problems to the Parent-Teacher Association clinics or to other clinics. The Crippled Children Services can provide medical financing for diagnosing and treating financially eligible patients under age 21, including the costs of secondary prophylaxis. The Aid to Needy Children Program and the Outside Medical Relief Program also can provide prophylactic medication. There is no organized follow-up of persons who have had rheumatic fever in the County. There is no vocational rehabilitation program per se for adults with rheumatic heart disease. Public health nursing and social service time devoted to patients with rheumatic fever or rheumatic heart disease is negligible.

Prevalence

It is difficult to determine the prevalence of rheumatic fever in Los Angeles County. Although this is a legally reportable disease, it can be readily demonstrated that only a fraction of the total number of cases is reported to the Public Health Department. Those agencies with an interest in rheumatic fever collect some prevalence data, but there is no means of eliminating duplication between agencies and under many circumstances the original diagnosis of rheumatic fever is open to question.

Propp[2] reviewed the charts of patients with diagnosis of rheumatic fever in 1962 in five large Los Angeles hospitals and found 33 cases which were acceptable by utilizing Jones'[1] criteria. Since the use of Jones' criteria seemed to be the community pattern, he then tabulated the medical record room statistics for 15 hospitals with over 200 beds and found 67 additional patients listed. Propp concluded that there was a minimum of 100 episodes of acute rheumatic fever in Los Angeles County in 1962. Reports to the Health Department from all sources totaled 39 for the same period.

In preparation for the Rheumatic Fever Workshop, statistics from six large hospital record rooms were tabulated for 1964. Forty-eight instances of acute rheumatic fever were noted. This figure tends to confirm Propp's conclusion.

For 1964 the Los Angeles Crippled Children Services offered diagnostic services to 1,370 children because of possible rheumatic fever. Fifty-eight of them were accepted for treatment or continued prophylaxis.

The seven Parent-Teacher Association clinics reported seeing 24 children with a history of rheumatic fever and 36 children with rheumatic heart disease in 1963-64.

The Los Angeles City Unified District School physicians examined 273,000 children in 1963-64. Of these 131 were referred for further examination for possible rheumatic fever or rheumatic heart disease. Fifty-five were considered to have had rheumatic fever and 16 were considered possibly to have had rheumatic fever.

School districts accounting for approximately 55 per cent of school children in Los Angeles County provided home teachers for 122 students on account of rheumatic fever in 1963-64. The diagnosis in those cases was unconfirmed.

In 1963-64 physicians at Los Angeles City and County Health Department clinics diagnosed rheumatic fever or rheumatic heart disease in 13 children.

Deaths attributed to acute rheumatic fever in Los Angeles County occur at a frequency rate not greatly different from that in other large United States population areas.[2] It is considered that these data are not precise since they are based on death certificates.

One would expect that prevalence data referable to rheumatic fever in Southern California would be available from insurance companies, from prepaid medical insurance programs, from university student medical records, from nearby counties or from the Los Angeles Heart Association. Reliable data were not available.

It was concluded that a minimum of 100 patients with active rheumatic fever are seen by physicians in Los Angeles each year.

Need

The consensus of the workshop was: *There is good evidence that there is a problem with streptococcal disease and its sequelae—particularly rheumatic fever and rheumatic heart disease —in Los Angeles County.*

Rheumatic fever and rheumatic heart disease do exist in Los Angeles. While precise prevalence data are desirable to gauge the extent of program planning, the precise prevalence need not be determined before proceeding with efforts to control this disease. Since rheumatic fever is the direct sequelae of group A streptococcal infection, obvious avenues for scientific attack are open. That the disease is uncommon does not preclude the possibility of reducing its incidence or prevalence through better management of the primary streptococcal infection, and through controlled secondary prophylaxis in the identified rheumatic individual.

Nowadays rheumatic fever is an uncommon disease in all areas of the United States and is a small part of the over-all community concern with heart disease. Nonetheless, rheumatic fever remains a significant disease in childhood ranking at least as high in incidence as cystic fibrosis, childhood leukemia or rheumatoid arthritis in Los Angeles County. In contrast to these diseases, the hope for benefit from medical supervision is good but the disease is traditionally less favored among those for which money is raised.

The estimated loss of income and the estimated community costs as a consequence of a single patient with rheumatic fever and rheumatic heart disease are staggering.[3]

Guidelines for Program Development

In the approach to control of streptococcal infection and its sequelae in Los Angeles the workshop developed the following principles to be used as guidelines:

Physician Education: *There is need for grass roots education of the medical profession regarding the significance of streptococcal infection and its sequelae.*

While physicians in Los Angeles show commendable precision in the diagnosis of acute rheumatic fever, over-diagnosis does occur. Underdiagnosis was not stressed as a significant problem. The delabeling of cases in which rheumatic fever is incorrectly diagnosed has been demonstrated to be a major benefit of organized rheumatic fever programs elsewhere.

The insufficient use of antibiotic therapy for streptococcal sore throat may be followed by acute rheumatic fever. The causal relationships of streptococcal sore throat to rheumatic fever and to acute glomerulonephritis are established. These documented facts offer a legitimate opportunity to prevent these diseases. The need for imaginative means to bring these facts to the physician and especially to the medical student was emphasized. The mere distribution of pamphlets and posters is to be deplored and results only in cluttered wastebaskets.

Coordination of Present Programs: *There should be close coordination of the various agencies presently engaged in managing the complications of streptococcal infection.*

The overlapping and uncoordinated programs, both public and private, managing patients with rheumatic fever and rheumatic heart disease should be brought together and means found to prevent interagency competition and duplication. The remarkable confusion, duplication and competition that exist in our community are wasteful and not beneficial to the patient. The Heart Association as a volunteer agency can best serve to bring all interested parties together.

Central Collection of Data and Follow-up: *Methods should be established for a central collection of data pertinent to the extent of rheumatic fever and rheumatic heart disease. In the community's interest adequate follow-up should be maintained.*

Without adequate data collection, it is impossible to plan appropriately for the management of this disease. Surveys of incidence and prevalence of rheumatic fever and rheumatic heart disease should be encouraged. Organizational means to insure flow of adequate data should be sought. If the incidence of rheumatic fever can be proved to be lower in Los Angeles than it is in other American cities, this would be a fact of some scientific importance.

There is no significant organized follow-up of known rheumatic patients in Los Angeles County. While the private physician or hospital may perform faultlessly, in our mobile community, the loss to follow-up of an identified rheumatic patient as a consequence of changing residence is a problem. Centralized data collection will uncover the pa-

tient lost to follow-up, and public health nursing can then facilitate the return of the patient to appropriate medical management. The family physician can then be assured of the return of the patient for continued care.

The recurrence of rheumatic fever because of lapse of prophylaxis represents a financial drain on the community which will be more than offset by the costs of accurate follow-up. Further, no factual data regarding the natural history of rheumatic fever in Los Angeles can be accumulated without such follow-up data.

Secondary Prophylaxis: *The Los Angeles County Heart Association should provide free prophylactic medication on physician request to all patients who have had rheumatic fever.*

Means to provide free prophylactic medication to the rheumatic patient should be developed. It is considered that provision of free secondary prophylactic medication for patients in this community should initially be the responsibility of the Los Angeles County Heart Association. Provision of free prophylactic medication should result in accumulation of additional prevalence data since minimal documentation of the need for prophylactic medication would be required.

It is not suggested that such a program should necessarily continue indefinitely; rather it should continue as long as it can be shown to provide worthwhile prevalence data. In other cities this approach to prevalence data collection has been successful.

For some unexplained reason prophylactic medication for the secondary prevention of recurrent streptococcal infection among rheumatic patients in California has been limited to benzathine penicillin tablets. It is considered that there may be cheaper and at least equally effective means of prophylaxis. While it is clear that monthly injections of benzathine penicillin provide the greatest degree of protection, oral medication in the form of penicillin G tablets or sulfadiazine has generally proved the most practical.

Primary Prevention of Rheumatic Fever: *The possible primary prevention of rheumatic fever in Los Angeles County poses great problems. Efforts in this direction should be confined to pilot studies and physician education programs.*

The exciting thought of virtually complete eradication of rheumatic fever through a highly organized community attack on streptococcal infection must be tempered by the cost and by the fact that it is not yet known whether such programs are effective. The complicated problems that go with such a program in our widespread metropolitan area should not be underestimated. The experience of other large cities in managing this question should be recognized and continually reevaluated. We are fortunate in having a highly organized and effective streptococcal identification program nearby in Orange County and should be able to draw upon that experiment for guidance. For the present, efforts toward primary prevention in the Los Angeles area should be confined to pilot studies in a localized area of the county.

Local Determination: *The Los Angeles rheumatic fever problem will have to be solved by programs designed for our particular community circumstances.*

Since the problem of rheumatic fever and rheumatic heart disease involves many public and many private agencies which are organized in different fashion from city to city, it is necessary to tailor a rheumatic fever program to the specific local circumstances. Programs which are effective elsewhere would not necessarily be as effective in Los Angeles. The approach to this problem should be methodical, empirical and practical and continually readjusted to the measured extent of the problem. Present evidence suggests that a relatively modest program for Los Angeles might be quite adequate.

Vocational Rehabilitation: *Vocational rehabilitation programs designed for the adult with rheumatic heart disease should be developed.*

There is virtually no program for the rehabilitation of the adult with rheumatic heart disease in our County. It is unreasonable to expect that these people should perform no work or exist as community beneficiaries. The possibility that these people can work despite artificial valve replacement must not be overlooked and as experience accumulates it is expected these individuals will be able to perform in gainful employment.

Research and Training: *Basic research in streptococcal infection and its sequelae should be strengthened.*

Basic research in the sequelae of streptococcal infections is virtually nonexistent in Los Angeles and should be encouraged. Enhanced clinical research and development of public health methods

will be a natural consequence of an organized community program.

It is to be hoped that some centralization of patient care can be developed which will provide improved opportunities for teaching.

Liaison with Other Cities: *Liaison between Los Angeles and other areas of the United States should be fostered not only to provide transfer of experience and scientific information but to help identify those individuals with rheumatic heart disease who are arriving in this area in significant numbers.*

It is proposed that yearly conferences utilizing a national consultant would provide better contact with other United States centers. The advantages of a repeat rheumatic fever workshop held at three to five yearly intervals are obvious. With an identifiable, formal Los Angeles program one would hope that immigrating patients known to have had rheumatic fever will be referred directly from out-of-state agencies and that adequate care will be a consequence.

Implementation of a Rheumatic Fever Control Program

The following proposals were made for a Los Angeles Rheumatic Fever Control Program:

Advisory Body: *An advisory committee of broad community representation should be established and should meet regularly to maintain communication between organizations and to seek solution to the control of streptococcal sequelae.*

The structure of this board will be less important than the dedication of the individuals involved. Lay and medical persons known for their informed responsibility in community affairs should be selected. The necessity for a small executive group, capable and likely to meet frequently, was emphasized. Such a board should have the potential of integrating present programs, planning the extent of future programs and maintaining running data on the prevalence of streptococcal sequelae, particularly rheumatic fever.

Heart Association: *The Los Angeles County Heart Association as an interested volunteer community agency should function as the catalytic agency to bring the advisory committee together and help carry out its recommendations.*

It was the consensus of opinion based on experience elsewhere and in the past in our own community that a volunteer agency such as the Heart Association has the most potential for developing solutions for the Los Angeles rheumatic fever problem.

Key Physician: *A carefully selected physician from this community should be appointed to carry out the policies of the advisory committee.*

It was suggested that a physician with local roots and knowledge of our diverse community would be in the best position to implement such a program. He would be charged with responsibility for the day-to-day management of the program within the policies established by the advisory committee.

APPENDIX

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